# PROJECT FACT SHEET

**CONTRACT TITLE:** Assist a Graduate Student, Peter Varney, in Energy-Related Research for Department of Energy

**ID NUMBER:** 75-97SW41271/43088

**B&R CODE:** AC1005000

**CONTRACTOR:** Associated Western Universities

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**PROJECT SITE**
**CITY:** Salt Lake City **STATE:** UT
**CITY:** **STATE:**
**CITY:** **STATE:**

**CONTRACT PERFORMANCE PERIOD:**
9/1/1997 to 8/31/1999

**PROGRAM:** Supporting Research
**RESEARCH AREA:**
**PRODUCT LINE:** DCS

| FUNDING (1000'S) | DOE | CONTRACTOR | TOTAL |
|---|---|---|---|
| PRIOR FISCAL YRS | 80 | 0 | 80 |
| FISCAL YR 1999 | 0 | 0 | 0 |
| FUTURE FUNDS | 0 | 0 | 0 |
| TOTAL EST'D FUNDS | 80 | 0 | 80 |

**OBJECTIVE:** Provide research assistance to Peter Varney, a graduate research student at the Colorado School of Mines through the Associated Western Universities Incorporated.

**PROJECT DESCRIPTION:**

**Background:**

**Work to be Performed:** The project goal is to better define the relationship between stratigraphy and fractured reservoir geometry in the Lindrith Field area to enhance the oil and gas recover potential. It is anticipated that the results will be applicable throughout the Rock Mountain region where there is production from the Dakota Formation.

**PROJECT STATUS:**

**Current Work:** Currently analyzing data gathered in the field. Visited seven Dakota Formation outcrops in northwestern New Mexico and southwestern Colorado during the summer. Met with Don Owen of Lamar University and Dag Nummedal of UNOCAL to discuss details of the sequence succession within the formation. Am Combining field data with stratigraphic sections described in the literature to develop the three dimensional framework for the interval between the base of the Encinal Canyon member and the top of the Cubero Sandstone member. Am also beginning to relate field data to subsurface well logs in order to characterize the Dakota within the Lindrith Field area.

**Scheduled Milestones:**

| | |
|---|---|
| Begin field work | 06/98 |
| Begin data reduction and analysis | 08/98 |
| Begin scheduling and layout of maps and cross-sections | 10/98 |
| Review of progress, report layout | 12/98 |
| Begin writing | 06/99 |
| Report to DOE | 12/99 |

**Accomplishments:** The outcrop sequences stratigraphic relationships in the Dakota Formation a set. There is at once a great similarity to the Dakota sequence in other areas, e. g. the Colorado Front Range, and a great dissimilarity because the San Juan Basin Dakota includes internal surfaces in some areas - particularly to the north.

Initial analysis of seismic sections within the study area suggests that basement block faulting may have influenced the sandstone depositional environment and thus may have localized areas favorable for fracturing.

The investigation is limited to the Dakota formation beneath the top of the Cubero member. It appears at this juncture that everything above this interval is more closely related to typical Graneros because it is above the X Bentonite marker. This is, however, at odds with the New Mexico Oil and Gas Commission's definition of the Dakota as everything above the top of the Jurassic Morrison Formation and 400 feet below the Greenhorn Limestone.